

# COSMOPOLITAN CHRONICLE

True tales from the annals of history, archaeology, construction, and restoration of the Casa de Bandini and Cosmopolitan Hotel.  
Old Town San Diego State Historic Park

VOL. I. NO. 19

SAN DIEGO, ALTA CALIFORNIA, JULY 18, 2008

PRICE: FREE

## Tools and Materials, Now and Then.. Part 2

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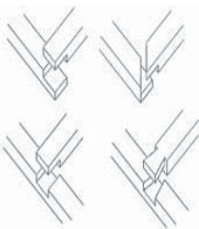
Carpentry is sometimes called joinery. The common use today of western frame construction, and “Simpson” ties, is probably responsible for the decline in this alternative trade name. Today, almost all wood joints in construction are butt or plain joints, in which the end or side of one board is placed or “butts” against the other.

This wasn’t always the case. When the Casa de Bandini was built, joints on roof framing were often notched, and lashed together with leather. Leather was also sometimes used for hinges.



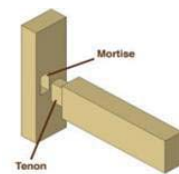
At the time of the Cosmopolitan construction in 1869, full framing methods were common.

Full framing involves the use of joints such as lap; open mortise, and closed mortise; also know as mortise and tenon, which used pins, (dowels) to hold the joint together.



Clockwise from top left:

End lap, mitred half lap, dovetail lap, and cross lap.



Nails were rare and valuable in the West throughout much of the 19th century, so they were used sparingly, and often reused when found; after a fire or demolition.

Today nails are the most common fastener used in construction. From about 3000 B.C. until 1786 A.D., all nails were hand forged by blacksmiths. (See chronicle vol. 1 no. 7) With the invention of cut nail making machines, which stamped nails out of flat iron plates, they could be mass produced. Nails were sold by pennyweight, a term originally used to denote the prices of nails per hundred. For example, 8d or 2 1/2 inch nails (d indicating penny, or pennyweight) originally sold for 8 cents per hundred. Now the d just indicates the size of the nail.

Manufactured nails which usually came from the East Coast, took a very long time to arrive on the West

Coast—the Panama Canal wasn’t opened until 1914. They were also expensive to ship because of their weight. So, often in the West nails were still forged by hand. Up until the mid-1800s, storage containers were primarily wooden barrels, boxes, tins and to some extent, pottery. Nails were usually shipped in kegs.



The illustration shows the type of kegs used by Tremont--America’s oldest nail manufacturer--to

ship cut nails all over the world for over 150 years. The sturdy kegs are constructed from pine staves with steel rims and wire bands.

Although most nails used today are wire nails, cut nails are actually superior. Cut nails provide superior holding power because of their four edges. A cut nail tears through the wood fibers, rather than splitting the fibers as wire nails do. This minimizes surface splitting of the wood. They are made from much harder steel, and therefore harder to bend. They are still used in nailing tongue and groove flooring; just as carpenters did in the Cosmopolitan’s main room (Bandini’s sala.)

